

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A fuel cell system comprising:

a fuel tank storing a fuel comprising dimethyl ether, water, 5-10 wt% of methanol, the mixing ratio of dimethyl ether and water is in a range of 1:3 to 1:4;
a vaporizer configured to ~~vaporoize~~ vaporize the fuel;
a reformer configured to reform the vaporized fuel into a hydrogen rich gas;
a CO gas removal apparatus configured to remove CO gas in the hydrogen rich gas;
and
a fuel cell unit configured to generate electricity by electrochemical reaction of the hydrogen rich gas and oxygen.

Claims 2-6 (Cancelled)

7. (Previously Presented) The fuel cell system of claim 1, wherein the fuel tank

comprises:

a cartridge unit configured to store the fuel;
a valve unit configured to close an opening of the cartridge unit;
a holding unit facing to the opening and configured to hold the cartridge unit; and
a supplying unit connected to the holding unit and configured to supply the fuel.

8. (Original) The fuel cell system of claim 7, wherein the cartridge unit stores a dimethyl ether.

9. (Previously Presented) The fuel cell system of claim 1, further comprising:

a combustor configured to combust a gas supplied from the fuel cell unit; and
a vacuum heat insulation container containing the combustor, containing the
vaporizer, the reformer, and the CO gas removal apparatus disposed adjacent to the
combustor.

10. (Original) The fuel cell system of claim 1, wherein the reformer contains a reforming catalyst of an alumina and at least one material selected from the group consisting of Rh, Pd, Pt, and Cu.

11. (Original) The fuel cell system of claim 1, wherein the reformer contains a reforming catalyst to prompt a reforming reaction of the fuel and a shift catalyst to react carbon monoxide generated by the reforming reaction with water.

12-23 (Cancelled).

24. (Currently Amended)) The fuel cell system of claim 1, wherein the fuel tank is a single tank storing the fuel comprising the dimethyl ether, the water, and the methanol methane.

Claims 25-34 (Cancelled).

35. (New) A fuel cell system comprising:

(A) a single fuel tank storing fuel,

the fuel tank comprising:

a cartridge unit configured to store dimethyl ether;

a valve unit configured to close an opening of the cartridge unit;

a holding unit facing to the opening and configured to hold the cartridge unit;

and

a supplying unit connected to the holding unit and configured to supply the fuel,

wherein the fuel comprises dimethyl ether, water, 5-10 wt% of methanol, wherein the mixing ratio of dimethyl ether and water is in a range of 1:3 to 1:4;

(B) a vaporizer configured to vaporize the fuel;

(C) a reformer configured to reform the vaporized fuel into a hydrogen rich gas, the reforming comprising a reforming catalyst of an alumina and at least one material selected from the group consisting of Rh, Pd, Pt, and Cu, the reforming catalyst prompting a reforming reaction of the fuel, and wherein the reformer comprises a shift catalyst to react carbon monoxide generated by the reforming reaction with water;

(D) a CO gas removal apparatus configured to remove CO gas in the hydrogen rich gas;

(E) a fuel cell unit configured to generate electricity by electrochemical reaction of the hydrogen rich gas and oxygen;

(F) a combustor configured to combust a gas supplied from the fuel cell unit; and

(G) a vacuum heat insulation container containing the combustor, containing the vaporizer, the reformer, and the CO gas removal apparatus disposed adjacent to the combustor.